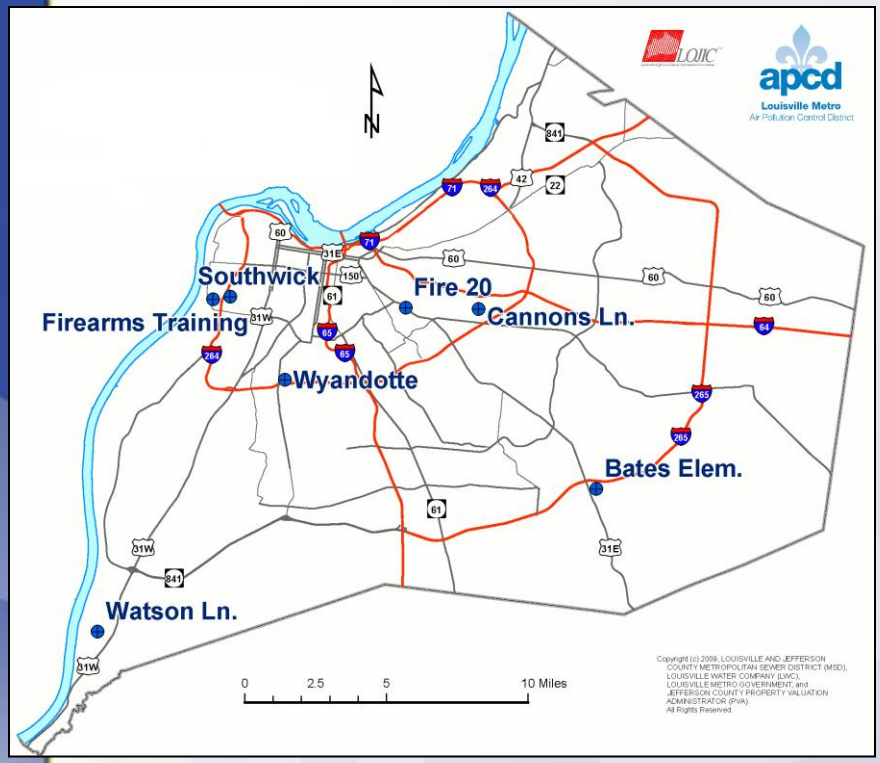
apcd
Louisville Metro
Air Pollution Control District

NCore Monitoring Program

METRO Louisville

Region 4 Air Monitoring Workshop
Tampa Florida April 2011

Ambient Air Monitoring Network



- **Bates Elementary**
  7601 Bardstown Road
- **Cannons Lane**
  2730 Cannons Lane
- **Fire Station 20**
  1735 Bardstown Road
- **Firearms Training**
  4201 Algonquin Pkwy
- **Southwick Community Center**
  3621 Southern Avenue
- **Watson Lane Elementary**
  7201 Watson Lane
- **Wyandotte Park**
  1104 Beecher Avenue

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Pre-NCore Network

- Monitoring equipment included:
  - 2 Sulfur Dioxide Analyzers
  - 2 Carbon Monoxide Analyzers
  - 1 Oxides of Nitrogen Analyzer
  - 3 Ozone Analyzers
  - 5 FRM $PM_{2.5}$ Samplers
  - 4 Continuous PM_{10} Samplers
  - 4 Continuous $PM_{2.5}$ Samplers
  - Meteorological Station
  - $PM_{2.5}$ Speciation

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NCore Challenges

- Network Assessment
  - Existing sites did not meet criteria for NCore.
  - Shut down 3 sites to offset resource needs and increase efficiency.
  - Move speciation site to NCore.
- New Site
  - Find a location, secure permission, and permits.
  - Safety, security, limit rooftop sampling.

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NCore Challenges

- Equipment
  - Some equipment transferred from sites that were shut down.
  - Still needed, shelter, trace level analyzers, data logger, calibration system and gas standards for trace level instruments, NO_Y, meteorological tower and sensors, and site computer.
- Personnel
  - No additional personnel to be hired.
  - Existing personnel needed training.

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NCore Additions to Network

- Sulfur Dioxide Analyzer
- Total Oxides of Nitrogen Analyzer
- Continuous PM_{Coarse}
- Meteorological Station
  - 6 parameters
- $PM_{2.5}$ Speciation (2nd SASS and URG to cover 1/3 day schedule)
- PM_{10c} Sampler (Lead)

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National Core Monitoring Station

- Lead
- Trace Level Carbon Monoxide
- Trace Level Sulfur Dioxide
- Oxides of Nitrogen (NO_x)
- Total Oxides of Nitrogen (NO_y)
- Ozone
- $PM_{2.5}$ Mass and Speciation
- PM_{10} – $PM_{2.5}$ (PM_{Coarse})
- Meteorological
- Air Toxics (U of L)
- RadNet

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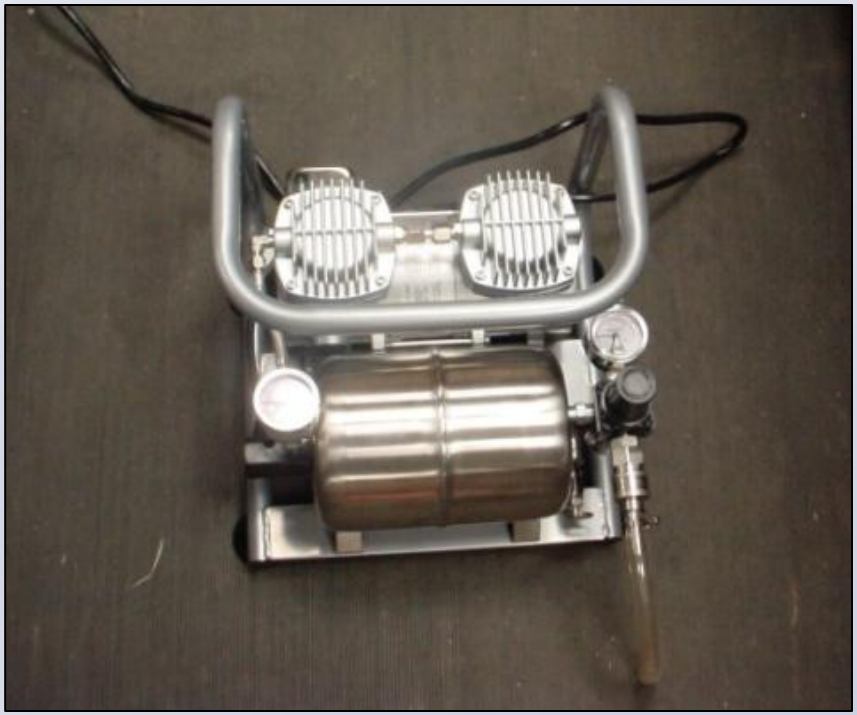
Lessons Learned

- A good zero air system is important.
- Build a bigger fence and deck the 1st time.
- Allow extra time for bureaucracy and red-tape (permits).
- Trace level instruments need finesse and patience.
- Balancing NCore with the rest of the network can be a problem.
- Go digital if you can.



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Current Issues

- No backup instruments for trace level measurements.
- Running extra SASS and URG samplers to handle move to 1/3 day sampling.
- Data Overload!
- Keeping up with SOP revisions.
- Training.
- **Costs for site so far $218,220.**

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Renewable Energy Project

- Install a PV array to produce up to 50% of the power requirements for the site.
- Final design (24) 220 watt panels that will produce 6,336 kWh/yr.
- Reduce carbon footprint of the site by 6.6 tons per year.
- Classroom for schools and the public.
- Energy production and carbon reduction to be displayed on agency website.

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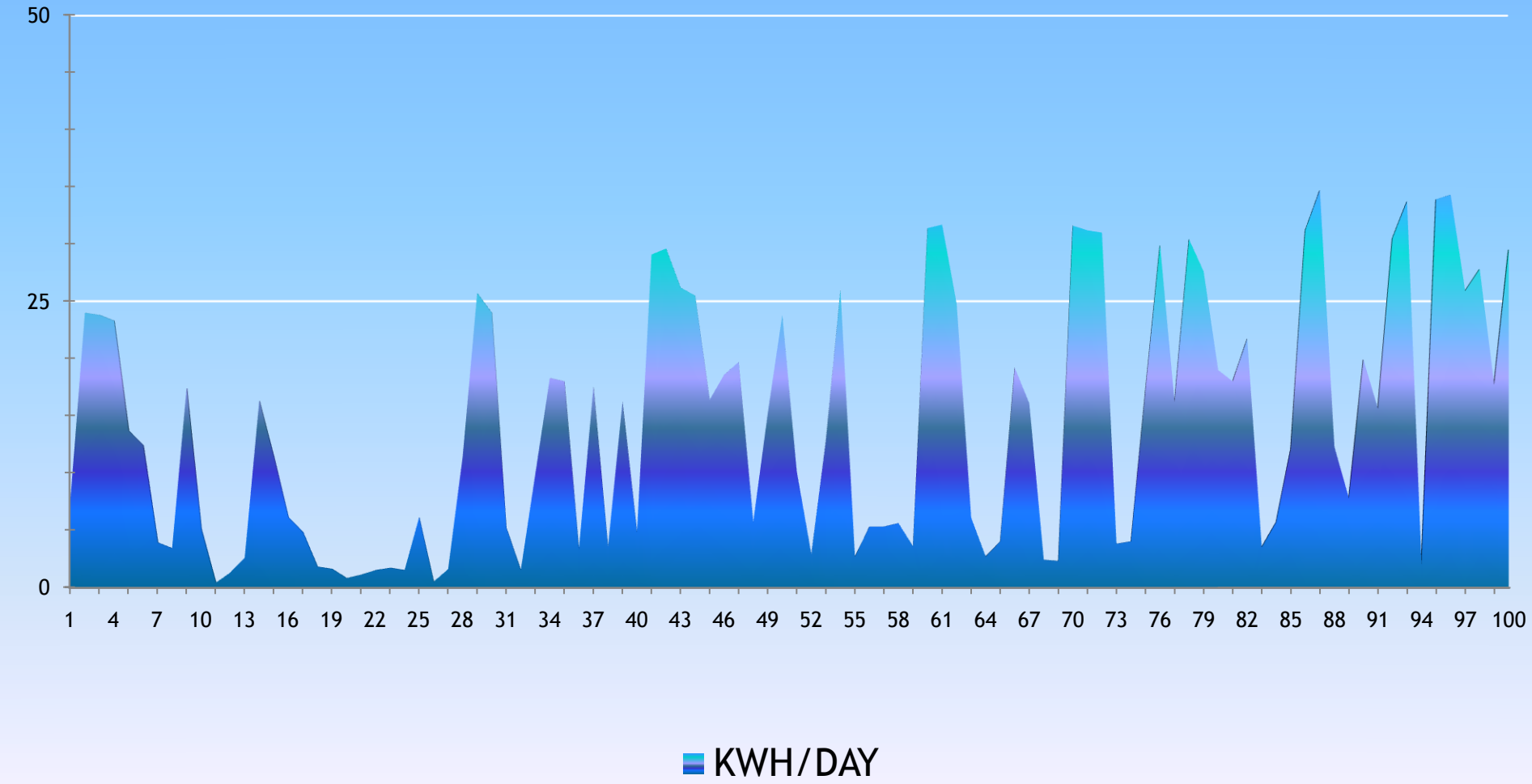
SMA
WARNING
ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH THE LINE AND
LOAD SIDES MAY BE ENERGIZED
IN THE OPEN POSITION
WARNING
ELECTRIC SHOCK HAZARD
IF A GROUND FAULT IS
INDICATED, NORMALLY GROUNDED
CONDUCTORS MAY BE
UNGROUNDED AND ENERGIZED

Cannons Lane Solar Project
Energy Production



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